

Emerging and Re-emerging Diseases



Emerging infectious diseases are diseases that (1) have not occurred in humans before (this type of emergence is difficult to establish and is probably rare); (2) have occurred previously but affected only small numbers of people in isolated places (AIDS and Ebola hemorrhagic fever are examples); or (3) have occurred throughout human history but have only recently been recognized as distinct diseases due to an infectious agent (Lyme disease and gastric ulcers are examples). The table below lists several examples of infectious diseases that have emerged in the last three decades.

Disease	Infectious Agent	Year Recognized
Lassa fever	<i>Arenaviridae</i> family (virus)	1969
Ebola hemorrhagic fever	<i>Filoviridae</i> family (virus)	1977
Legionnaire disease	<i>Legionella pneumophila</i> (bacterium)	1977
hemolytic uremic syndrome	<i>Escherichia coli</i> 0157:H7 (bacterium)	1982
Lyme borreliosis	<i>Borrelia burgdorferi</i> (bacterium)	1982
AIDS	human immunodeficiency virus	1983
gastric ulcers	<i>Helicobacter pylori</i> (bacterium)	1983
cholera	<i>Vibrio cholerae</i> 0139 (bacterium)	1992
hantavirus pulmonary syndrome	<i>Bunyaviridae</i> family (virus)	1993
pandemic influenza	<i>Orthomyxoviridae</i> family (virus)	new viral strains emerge periodically

Re-emerging infectious diseases are diseases that once were major health problems globally or in a particular country, and then declined dramatically, but are again becoming health problems for a significant proportion of the population (malaria and tuberculosis are examples). Many specialists in infectious diseases include re-emerging diseases as a subcategory of emerging diseases. Figure 8 lists examples of re-emerging infectious diseases.

Disease	Infectious Agent
cryptosporidiosis	<i>Cryptosporidium parvum</i> (protozoan)
diphtheria	<i>Corynebacterium diphtheriae</i> (bacterium)
malaria	<i>Plasmodium</i> species (protozoan)
meningitis, necrotizing fasciitis (flesh-eating disease), toxic-shock syndrome, and other diseases	Group A <i>Streptococcus</i> (bacterium)
pertussis (whooping cough)	<i>Bordetella pertussis</i> (bacterium)
rabies	<i>Rhabdovirus</i> group (virus)
rubeola (measles)*	<i>Morbillivirus</i> genus (virus)
schistosomiasis	<i>Schistosoma</i> species (helminth)
tuberculosis	<i>Mycobacterium tuberculosis</i> (bacterium)
yellow fever	<i>Flavivirus</i> group (virus)